

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>PALGE03040</b>	FOR FURTHER ACTION      see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/KR 03/01375</b>	International filing date ( <i>day/month/year</i> ) <b>10 July 2003 (10.07.2003)</b>	(Earliest) Priority Date ( <i>day/month/year</i> ) <b>20 December 2002 (20.12.2002)</b>
Applicant <b>LG ELECTRONICS INC.</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (See Box II).

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☐ the text is approved as submitted by the applicant.
- ☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.: 1

- ☒ as suggested by the applicant. ☐ None of the figures.
- ☐ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.

**Box III TEXT OF THE ABSTRACT** (Continuation of item 5 of the first sheet)

A reciprocating compressor with an improved lubrication performance by using a lubricant in harmony with a refrigerant compressed therein, which includes: a hermetic container (6) to which a suction pipe (2) for sucking a refrigerant and a discharge pipe (4) for discharging a compressed refrigerant; a driving unit (8) disposed inside the hermetic container (6) and generating a reciprocal motional force; a compression unit (10) for receiving the reciprocal motional force from the driving unit (8) and compressing an ethane group-based R134a refrigerant; and a lubrication unit (12) for supplying a lubricant to each motional portion of the driving unit (8) and the compression unit (10) and performing a lubricating operation thereon and using an ester-based lubricant, a sort of synthetic fluid with a density of 0.91~0.99 (15/4 C)

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/AT 03/01375-0

## CLASSIFICATION OF SUBJECT MATTER

IPC<sup>7</sup>: F04B 39/02, F04B 31/00, F04B 35/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC<sup>7</sup>: F04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, WPI, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 02/20990 A1 (EMPRESA BRASILEIRA DE COMPRESSORES SA) 14 March 2002 (14.03.02) <i>the whole document.</i>	1-4
Y	EP 1170506 A1 (AWASHIMA HIROKI) 9 January 2002 (09.01.02) <i>the whole document.</i>	1-4
A	US 2865559 A (GIGLER) 9 September 1954 (09.09.54) <i>fig. 1.</i>	2-4
A	JP 09 195938 A (GOLD STAR) 29 July 1997 (29.07.97) <i>fig. 6,7.</i>	2-4

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents:

„A“ document defining the general state of the art which is not considered to be of particular relevance

„E“ earlier application or patent but published on or after the international filing date

„L“ document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

„O“ document referring to an oral disclosure, use, exhibition or other means

„P“ document published prior to the international filing date but later than the priority date claimed

„T“ later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

„X“ document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

„Y“ document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

„&“ document member of the same patent family

Date of the actual completion of the international search

17 October 2003 (17.10.2003)

Date of mailing of the international search report

5 November 2003 (05.11.2003)

Name and mailing address of the ISA/AT

Austrian Patent Office

Dresdner Straße 87, A-1200 Vienna

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

T/KR 03/01375-0

Patent document cited in search report			Publication date	Patent family member(s)			Publication date
EP	A	1170506	2002-01-09	CN	T	1347478T	2002-05-01
				AU	A	3676400	2000-11-02
				JP	A	2000297753	2000-10-24
				WO	A	0063559	2000-10-26
JP	A	9195938A				none	
		2					
US	A	2865559	1958-12-23			none	
WO	A	220990				none	